

PETITION

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Your Petitioner, John Williams, a citizen of the United States of America and resident of the State of New York, whose residence and mailing address is 120 Greenridge Avenue, White Plains, New York 10605, prays that Letters Patent Protection be granted to him for a

SECURE DATA BACKUP COMMUNICATIONS SYSTEM

as set forth in the following specification:

Cross-Reference to Related Provisional Patent

This application claims priority based on a provisional patent, specifically on the Provisional Patent Application Serial No. 60/430,188 filed December 2, 2002.

Background of the Invention

1. Technical Field

The present invention is related to secure data backup communications systems and, more particularly, to a nationwide, regional and/or local secure data backup communications system which includes redundant communication systems connecting a plurality of external data storage facilities to at least one centralized operations command center or headquarters which is designed to withstand both natural and man-made disasters to maintain generally continuous data transfer communications regardless of the external conditions such as disaster or other such data-jeopardizing situation.

2. Description of the Prior Art

Secure data transmission and storage is an ongoing concern for both businesses and government. Specifically, many companies and branches of government lack a secure data storage location or locations in which important data may be stored. Instead, these organizations often rely on in-house data storage devices or external servers for the storage of data, without being completely sure of the security of the facility if faced with a disaster of some kind, such as fire, flood, or a man-made disaster such as a nuclear explosion or other such catastrophic event. In many circumstances, the data will be lost during such an event, which eliminates the usefulness and value of the backup data. There is therefore a need for a secure data backup system and facility which will result in the survival of backup data transmitted thereto.

The need for secure data backup facilities is exacerbated by the increase in worldwide terrorist activities, which eventually will hit not only physical structures and persons, but electronic media in which much of the world's information is stored. At the present time, only the largest entities can afford to design and construct secure data backup facilities, and the remaining entities are left to protect their data in whatever reasonably acceptable method that they can afford. While such backup systems will provide reasonable data protection and integrity, in the event of a major disaster or the like, the data will almost certainly be lost. There is therefore a need for a secure data backup communications system which is usable by almost any entity regardless of size and location, thereby permitting secure and

1 efficient storage of data.

2 Therefore, an object of the present invention is to provide an
3 improved secure data backup communications system.

4 Another object of the present invention is to provide a secure
5 data backup communications system which includes a generally
6 independent and secure communications system which functions
7 independent of the standard communications web to ensure secure
8 backup data transfer in a disaster environment.

9 Another object of the present invention is to provide a secure
10 data backup communications system which is usable by companies and
11 individuals both large and small, thus providing secure data backup
12 for those entities which ordinarily would not be able to access
13 such a system.

14 Another object of the present invention is to provide a secure
15 data backup communications system which can be used to supplement
16 existing backup systems which are on-site, thereby providing needed
17 backup for data in an easily accessible off-site location via a
18 high-capacity data transfer communications system, one which is not
19 available at present.

20 Another object of the present invention is to provide a secure
21 data backup communications system which will provide data restore
22 capability during times of extreme duress.

23 Finally, an object of the present invention is to provide a
24 secure data backup communications system which is efficient, safe
25 and durable in use.

Summary of the Invention

The present invention provides a secure data backup communications system for providing remote secure data storage for connected user systems in the event of loss of on-site original or backup data which includes a remote backup central communications and storage facility operative to receive and store backup electronic data in an accessible data storage system and a generally independent and generally secure information transmission communication system separate from utility-based communications networks, the generally independent and generally secure information transmission communication system extending between and connecting the remote backup central communications and storage facility and a connected user system of the secure data backup communications system. A receiving interface device is operative to receive transmitted backup data from a connected user system and optionally translate the transmitted backup data to a storable data format for retrievable storage thereof, and a transmitting interface device is operative to retrieve the transmitted backup data and optionally translate the transmitted backup data from the storable data format to a user system data format for transmitting the transmitted backup data back to a connected user system via the generally independent and generally secure information transmission communication means once the remote user system requests the stored transmitted backup data. Finally, a secure data storage system within the remote backup central communications and storage facility is in information transmission connection with the receiving interface device and the transmitting interface device,

1 the secure data storage system operative to securely store
2 transmitted backup data in the storable data format received via
3 the receiving interface device therewithin until retrieved via the
4 transmitting interface device.

5 The secure data backup communications system as thus described
6 clearly offers several advantages over those systems found in the
7 prior art. For example, particularly in light of the 9/11 tragedy
8 and the potential for terrorist attacks at any time and at any
9 place, there is no guarantee that the present data backup systems
10 used by companies and governmental entities will be able to deal
11 with the stresses of such an attack, which would likely result in
12 at least a partial loss of the backup data being stored therein.
13 Furthermore, at the present time there is no easily accessible
14 secure data backup communications system which can be used by
15 multiple organizations, some of which would not be able to afford
16 the large costs of constructing their own secure data backup
17 facility. Also, because the communications system of the present
18 invention is generally independent and secure as compared to the
19 standard communication networks used by local data transmission
20 networks, the chances are far greater that the communications
21 network of the present invention will survive a catastrophe intact
22 enabling continuous transfer of backup data between the connected
23 user systems and the remote backup central communications and
24 storage facility of the present invention. The present invention
25 thus provides a substantial improvement over those backup data
26 storage systems found in the prior art.

1 **Brief Description of the Drawing**

2 Figure 1 is a flow diagram showing the general system
3 description of the secure data backup communications system of the
4 present invention.

Description of the Preferred Embodiment

The secure data backup communications system of the present invention is shown best in Figure 1 as including at its core a main national headquarters which is located in a facility with comprehensive military-style protection and security from all forms of disaster and threats including but not limited to physical, electronic, chemical, biological, nuclear and radiological events, thus rendering the main national headquarters generally impervious to all but the most exceptional disaster. The main headquarters may also be referred to as the remote backup central communications and storage facility to further illustrate the intended functionality of the headquarters, although such renaming is certainly not critical to the present invention. Furthermore, although such a headquarters may be located in any appropriate community, it is preferred that the headquarters be centrally located in the United States in an area of the country which is not earthquake-prone in order to insure the integrity of the headquarters. It has been found that the Omaha, Nebraska metropolitan area offers an exceptionally well-located and well-prepared metropolitan community for such a headquarters, although it is to be expected that numerous regional command centers would be located in metropolitan areas around the country, each of which would be in guaranteed communications via the redundant communication systems with the main headquarters to ensure secure and accurate data transfer and storage in the event of a disaster regardless of the location around the country.

The main headquarters would utilize backbone communications

1 trunks, including landline, fiber optic, microwave, UHF and VHF
2 broadcasting facilities and other radio and satellite technologies
3 to maintain communication between the main headquarters and
4 regional headquarters and business and government agencies. It
5 should be noted that the term "redundant" as used in this
6 disclosure refers to these multiple backup communication systems,
7 and not in merely a general way to currently available
8 communication and data transmission systems. This broad array of
9 communications infrastructure exists (in many ways, uniquely) in
10 the Omaha, Nebraska metropolitan area. Of course, it is preferred
11 that the regional command centers each be protected in a facility
12 similar to that used in connection with the main national
13 headquarters with comprehensive military-style protection and
14 security from all forms of disaster and threats including but not
15 limited to physical, electronic, chemical, biological, nuclear and
16 radiological events, thus rendering the regional headquarters
17 generally impervious to all but the most exceptional disaster. One
18 way to envision the main and regional headquarters system is to
19 think of it as a "hub and spoke" system, with the main headquarters
20 in communications connection with each of the regional headquarters
21 and each of the regional headquarters in communications connection
22 with the businesses and government branches and agencies, although
23 it should be noted that some direct connections between the main
24 headquarters and businesses and government branches and agencies
25 may be desirable to ensure uninterrupted data transmission and
26 storage capabilities.

27 It is important to note that the secure data backup
28

1 communications system of the present invention is intended to
2 supplement those data backup systems already in existence around
3 the country but which, for various reasons, cannot be updated or
4 made redundant. The main headquarters will be staffed and operated
5 twenty-four hours a day, seven days a week, in order to be
6 available for any disaster occurrence and in any situation. In
7 fact, the main headquarters and to a lesser extent the regional
8 headquarters may also include in-house living facilities for the
9 on-site staff to permit the staff to always be on call in case of
10 an emergency. It is expected that the headquarters staff will be
11 highly trained and familiar with each of the organization's needs
12 to which they are assigned in order to insure proper and quick
13 response to any incoming data transfer.

14 At the heart of the present inventions are the redundant
15 communication systems, facilities, and technologies which connect
16 the main headquarters and regional headquarters to existing
17 businesses and government branches and agencies, thus providing
18 seamless connectivity in the event that one or more of the
19 organization's primary backup systems becomes inoperable or
20 destroyed. The secure data backup communications system of the
21 present invention includes interfaced technologies which permit the
22 main headquarters and the regional headquarters to connect with a
23 variety of data storage and communication systems for the
24 businesses and government branches and agencies, as well as various
25 technologies to insure compatibility with various computer systems
26 for receipt and storage of data. However, it is important to note
27 that as there is not a universal data storage system used by each
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1 and every one of the businesses and governmental agencies currently
2 in operation, an important component of the present invention is
3 the ability to interface with those different data storage systems
4 to ensure that secure data transfer for backup purposes is
5 maintained.

6 It is expected that the present invention will utilize
7 available data storage technology such as server units, hard
8 drives, tape storage units and the like for storage of incoming
9 data, although the exact nature of the storage technology is not
10 critical so long as the functional features of the present
11 invention are maintained. Specifically, these functional features
12 are that the data storage be quickly and efficiently performed in
13 the secure data storage facility and that all data be kept
14 confidential between users of the present invention to ensure that
15 the system is reliable and safe in use.

16 An important feature of the present invention is that the
17 secure data backup communications system is designed for use with
18 both military and civil data storage and transmission systems on
19 all levels, including local, state and federal governmental
20 entities. A major problem with current data storage systems is
21 that they are intentionally designed not to communicate with other
22 databases and storage facilities to ensure confidentiality of the
23 data stored therein. The critical difference between current data
24 storage facilities and the secure data backup communications system
25 of the present invention is that the current data storage
26 facilities are microsystems, in that they are only designed and
27 used with specific businesses and government branches and agencies,
28

1 whereas the present invention is a macrosystem in that it is
2 designed not only to communicate with local business and
3 governmental entities, but to receive and securely store data from
4 regional and national business and governmental entities also.

5 Of course, it is to be understood that numerous modifications,
6 substitutions and additions may be made to the secure data backup
7 communications system described herein. For example, the exact
8 implemented features and functional characteristics of the features
9 described above may be changed or modified so long as the intended
10 functionality of providing a redundant secure data backup
11 communications system is maintained. Additionally, the precise
12 location and characteristics of the national and regional
13 headquarters described herein may be changed or modified so long as
14 the functionality of the headquarters, be it local, regional or
15 national, is not impaired. Finally, modification of the
16 communication systems based on improved technology is expected and
17 will not affect the functionality of the system contained herein.

18 There has thus been shown and described an secure data backup
19 communications system which fulfills all of its intended
20 objectives.